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ABSTRACT

A study was conducted reviewing the current status of cooperation between area schools and secondary schools in providing vocational-technical education and developing proposals which may generate additional cooperation in vocational-technical education. Four sources provided basic information for this study: (1) data from the Iowa Department of Public Instruction, (2) a questionnaire mailed to local school districts that operate jointly administered programs, (3) interviews with planners of jointly approved programs, and (4) recent studies and reports pertinent to vocational education in Iowa. It was found that the growth of jointly administered programs has been substantial during the past five years--a period of expansion characterized by programs being terminated as well as initiated. Programs exist in all major vocational education categories with the greatest number in the areas of trade and industrial, agriculture, and health occupations. In general, participants in the study were satisfied with the jointly administered programs, though problems with costs, coordinated schedules, transportation, and facilities do exist. It was recommended that a regional effort be made to collectively plan a systematic approach. (CT)

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A Study of Current and Potential Cooperation in Vocational-Technical Education Between Area Schools and Public Schools In Iowa

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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This study is the fifth of five made possible by the Interim Study Committee of the House Budget Committee of the Iowa General Assembly. Committee members were: Representative N. Jesse, chairman; W. Horn, F. Koogler, J. Patchett, D. Stromer, and R. Welden.

The objectives underlying each of the five studies were to provide pertinent information and to increase knowledge regarding selected problems facing education in Iowa.

The five studies of education in Iowa were conducted by faculty members at The University of Iowa, Iowa State University, and the University of Northern Iowa. The five studies were coordinated by Professor George A. Chambers, Chairman of the Division of Educational Administration, The University of Iowa. The titles of the five studies and the faculty researchers are:

"A Study of State of Iowa Appropriations with an Emphasis upon Expenditures for Education," George A. Chambers, Leo A. Gerst, and Marvin E. Jackson, The University of Iowa.

"A Study of Iowa's Public Elementary and Secondary Enrollment Trends, 1977-78 through 1981-82," Professor Emeritus Wayne P. Truesdell, University of Northern Iowa.

"Enrollment in Post Secondary Education in Iowa: Prospects and Potential Problems for the Period 1977 through 1986," Duane D. Anderson, Robert E. Engel, and Robert S. Ellinger, The University of Iowa.

"A Cost Projection for Special Education Funding in the State of Iowa, 1975-76 through 1985-86," Clifford E. Howe, The University of Iowa.

"A Study of Current and Potential Cooperation in Vocational-Technical Education between Area Schools and Public Schools in Iowa," Harold E. Dilts, Iowa State University.

The authors express their appreciation to the committee and to Ms. Linda King, administrative assistant to the committee, for help and direction in conducting the studies.

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INTRODUCTION

Legislation establishing merged area schools in Iowa included the priority that instruction and service be provided for secondary school students whose local schools lacked vocational education opportunities. In effect, this legislation created shared responsibility for providing vocational education to Iowa's secondary school students.

During the past five years, those shared responsibilities have received increased attention, generally through joint planning and implementation of vocational education programs.

Motivation for these efforts arises from several sources. Chief among them, leadership from the state level encouraged development of jointly planned and jointly administered programs through supporting and funding regional needs studies. The stabilization of growth within other priorities for merged area schools also appears to have been a contributing factor. But perhaps most important is that the leaders of merged schools and school districts recognize that meeting secondary school students' needs for vocational education is a logical step toward meeting the obligation prescribed by laws which created them.

Purpose of the Study

This study reviews the current status of cooperation between area schools and secondary schools in providing vocational-technical education and develops proposals which may generate additional cooperation in vocational-technical education. Four sources provided basic information for this study: (1) data from the Iowa Department of Public Instruction, (2) a questionnaire mailed to local school districts that operate jointly administered programs, (3) interviews with planners of jointly approved programs, and (4) recent studies and reports pertinent to vocational education in Iowa.

STATUS OF JOINTLY ADMINISTERED PROGRAMS

During the 1976-77 school year, more than 12,500 seniors enrolled in individually and jointly administered reimbursed vocational education programs (Table 1). This number represents approximately one-fourth of the 46,833 seniors enrolled in 1976-77. The ratio of males to females enrolled in vocational education was approximately two to one. Significantly, one-third of Iowa's eleventh and twelfth grade males are enrolled in vocational-technical programs, as are one-sixth of Iowa's eleventh and twelfth grade females.

Table 1—Twelfth Grade Enrollments in Local and Jointly Administered Vocational Education Programs, 1976-77

	MALE	FEMALE	TOTAL
Agriculture Education*	4,464	441	4,905
Distributive Education	787	915	1,702
Health Occupations	15	305	320
Home Economics Education	140	472	612
Office Occupations	41	1,179	1,220
Trade & Industries	2,809	528	3,337
Multi-Occupational	309	271	580
TOTAL	8,565	4,111	12,676

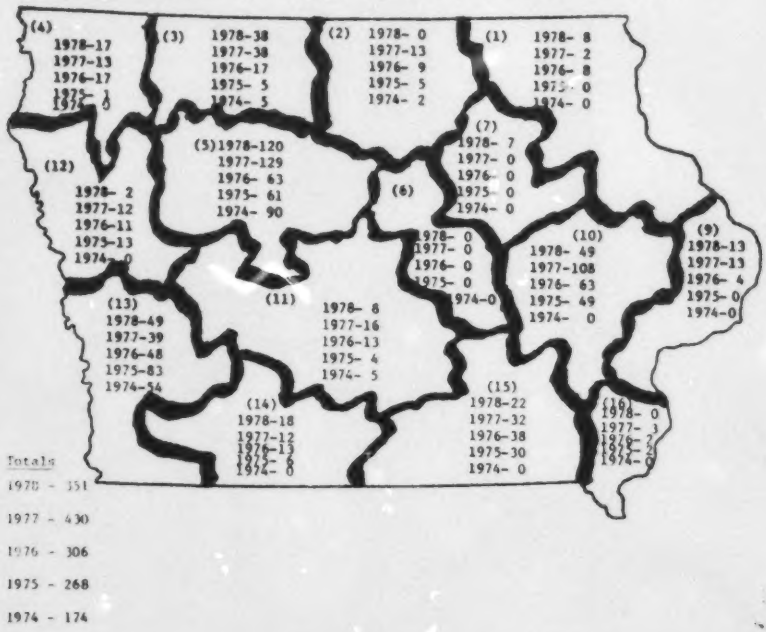
* The data for Agriculture Education may be inflated because of dual counts in the reporting.

Information concerning 1977-78 approved vocational programs indicates that 44% of Iowa's eleventh and twelfth grade public school students had access to four or more vocational programs in their schools. These programs and students were found in 69 of Iowa's 449 school districts, and the remaining districts provided access to three or fewer vocational programs. Generally, the most extensive programs were located in districts with the largest populations, exceptions being smaller schools that entered into jointly administered programs.

Distribution of Programs by Merged Areas

Since 1974, jointly administered programs have grown at an accelerated rate within Iowa's secondary schools. Figure 1 indicates the distribution of this growth by merged area boundaries. Growth has been rapid in some areas and modest in others, but all merged area schools have attempted to implement jointly administered programs.

Figure 1—Number of Reimbursed Jointly Administered Secondary Vocational Programs by Merged Area, 1974-78



Distribution of Programs by Categories

Trade and industrial programs have been implemented in all merged areas since 1974 (Table 2). Twelve merged areas (80%) had such programs by 1978. Ten (67%) of merged areas initiated programs in agriculture education during the period. Only one area offered a multi-occupational program in 1978, and three areas offered distributive education during the five-year period. In 1978, the majority of programs offered included trade and industries as well as agriculture and health occupations.

Table 2–Number of Reimbursed Jointly Administered Secondary Vocational Programs by Merged Area, 1974-78

	1974	1975	1976	1977	1978
AREA 1					
Agriculture Education	–	–	2	2	2
Distributive Education	–	–	–	–	–
Health Occupations	–	–	1	–	–
Home Economics Education	–	–	–	–	–
Office Occupations	–	–	–	–	–
Trade & Industries	–	–	5	–	6
Multi-Occupational	–	–	–	–	–
TOTAL	0	0	8	2	8
AREA 2					
Agriculture Education	–	1	1	2	–
Distributive Education	–	–	–	–	–
Health Occupations	1	3	3	6	–
Home Economics Education	–	–	–	–	–
Office Occupations	–	–	–	–	–
Trade & Industries	1	1	5	5	–
Multi-Occupational	–	–	–	–	–
TOTAL	2	5	9	13	0
AREA 3					
Agriculture Education	–	–	1	4	5
Distributive Education	–	–	1	–	–
Health Occupations	1	2	5	13	10
Home Economics Education	–	–	1	–	–
Office Occupations	–	–	1	3	5
Trade & Industries	4	3	8	18	18
Multi-Occupational	–	–	–	–	–
TOTAL	5	5	17	38	38
AREA 4					
Agriculture Education	–	1	2	1	7
Distributive Education	–	–	–	–	–
Health Occupations	–	–	–	–	–

	1974	1975	1976	1977	1978
Home Economics Education	–	–	–	–	–
Office Occupations	–	–	–	–	–
Trade & Industries	–	–	15	12	10
Multi-Occupational	–	–	–	–	–
TOTAL	0	1	17	13	17
AREA 5					
Agriculture Education	10	6	7	9	9
Distributive Education	–	–	–	–	–
Health Occupations	18	16	14	32	29
Home Economics Education	–	–	–	–	–
Office Occupations	30	15	13	27	27
Trade & Industries	32	24	29	61	55
Multi-Occupational	–	–	–	–	–
TOTAL	90	61	63	129	120
AREA 6					
NO PROGRAMS					
AREA 7					
Agriculture Education	–	–	–	–	–
Distributive Education	–	–	–	–	–
Health Occupations	–	–	–	–	–
Home Economics Education	–	–	–	–	–
Office Occupations	–	–	–	–	–
Trade & Industries	–	–	–	–	7
Multi-Occupational	–	–	–	–	–
TOTAL	0	0	0	0	7
AREA 9					
Agriculture Education	–	–	–	8	7
Distributive Education	–	–	–	–	–
Health Occupations	–	–	1	–	2
Home Economics Education	–	–	–	–	–
Office Occupations	–	–	1	–	–
Trade & Industries	–	–	2	5	4
Multi-Occupational	–	–	–	–	–
TOTAL	0	0	4	13	13

	1974	1975	1976	1977	1978
AREA 10					
Agriculture Education	–	7	9	10	6
Distributive Education	–	–	–	–	–
Health Occupations	–	11	19	25	13
Home Economics Education	–	–	–	–	1
Office Occupations	–	5	5	9	–
Trade & Industries	–	26	40	64	29
Multi-Occupational	–	–	–	–	–
TOTAL	0	49	63	108	49
AREA 11					
Agriculture Education	–	–	–	–	–
Distributive Education	–	–	–	–	–
Health Occupations	–	–	–	–	–
Home Economics Education	2	2	1	–	–
Office Occupations	–	–	–	–	–
Trade & Industries	3	2	12	16	8
Multi-Occupational	–	–	–	–	–
TOTAL	5	4	13	16	8
AREA 12					
Agriculture Education	–	3	2	3	1
Distributive Education	–	3	–	–	–
Health Occupations	–	–	–	2	–
Home Economics Education	–	–	–	–	–
Office Occupations	–	–	–	–	–
Trade & Industries	–	7	9	7	1
Multi-Occupational	–	–	–	–	–
TOTAL	0	13	11	12	2
AREA 13					
Agriculture Education	4	4	3	5	7
Distributive Education	5	6	4	–	–
Health Occupations	–	–	–	–	–
Home Economics Education	8	15	8	7	10
Office Occupations	4	4	3	–	–
Trade & Industries	33	54	30	27	32
Multi-Occupational	–	–	–	–	–
TOTAL	54	83	48	39	49

	1974	1975	1976	1977	1978
AREA 14					
Agriculture Education	–	–	–	–	–
Distributive Education	–	–	–	–	–
Health Occupations	–	1	6	6	9
Home Economics Education	–	–	–	–	–
Office Occupations	–	–	–	–	–
Trade & Industries	–	5	7	6	9
Multi-Occupational	–	–	–	–	–
TOTAL	0	6	13	12	18
AREA 15					
Agriculture Education	–	2	3	3	–
Distributive Education	–	–	–	–	–
Health Occupations	–	2	6	6	6
Home Economics Education	–	–	–	–	–
Office Occupations	–	2	4	–	–
Trade & Industries	–	24	25	23	14
Multi-Occupational	–	–	–	–	2
TOTAL	0	30	38	32	22
AREA 16					
Agriculture Education	–	–	–	–	–
Distributive Education	–	–	–	–	–
Health Occupations	–	–	–	–	–
Home Economics Education	–	–	–	–	–
Office Occupations	–	–	–	–	–
Trade & Industries	–	2	2	3	–
Multi-Occupational	–	–	–	–	–
TOTAL	0	2	2	3	0
STATE–TOTALS					
Agriculture Education	14	24	30	47	44
Distributive Education	5	9	5	0	0
Health Occupations	20	35	55	90	69
Home Economics Education	10	17	10	7	11
Office Occupations	34	26	27	39	32
Trade & Industries	73	148	189	247	193
Multi-Occupational	0	0	0	0	2

Program Growth

A comparison of jointly administered programs and individually administered programs of local districts reveals that both types increased from 1974 to 1976 (Table 3). The greatest increase was in the number of jointly administered programs, indicating that expansion of vocational programs must be attributed directly to cooperative efforts between local districts and area schools.

Table 3—Reimbursed Individually and Jointly Administered Secondary Vocational Programs Offered by Local Schools, 1974-76

	FY 1974	FY 1975	% Change	FY 1976	% Change
Individually Administered	651	693	6.5	699	.86
Jointly Administered	156	259	66	314	21
TOTAL	807	952	18	1013	6.4

Source: Department of Public Instruction, CE-4 File Computer Runs.

Local School District Participation

In 1976, local school districts offered 326 individually administered programs and 143 jointly administered programs (Table 4).

Table 4—Local School Districts Offering Reimbursed Individually and Jointly Administered Secondary Vocational Programs

	FY 1974	FY 1975	% Change	FY 1976	% Change
Individually Administered	263	271	3	326	20
Jointly Administered	45	105	133	143	36
TOTAL	285	323	13	371	15

Source: Department of Public Instruction, CE-4 File Computer Runs.

Approximately one-third of the local districts participated in jointly administered programs in 1978 (Table 5), an increase from the 10% participating in 1974.

Table 5—Jointly Administered Programs by Local District

	Participating Districts	Percent of Total Districts
1974	45	10%
1975	105	23%
1976	143	32%
1977	148	33%
1978	149	33%

Several districts were involved in many programs, allowing students to enroll in more than one vocational offering. In a given year some districts may not have had students enrolled in all programs because students were not interested. From 1974 to 1976, for example, a school may have been planning and offering joint programs for three years but may have had students enrolled for fewer than three years.

Merged Area School Participation

Evidence of cooperation among local schools and area schools in developing vocational education programs appears in Table 6. During the 1974-76 period, the number of programs offered by merged area schools grew from 40 to 106, an increase of 266%.

Table 6—Number of Jointly Administered Programs Offered by Area Community Colleges and Local Schools

	FY 1974	FY 1975	% Change	FY 1976	% Change
Area Community College	40	74	85	106	43
Local School	158	259	66	314	21

Source: Department of Public Instruction, CE-4 File Computer Runs.

Exploratory Programs

Exploratory vocational programs are those which familiarize the student with the nature of an occupation so a student may consider that occupation as a possible career. In 1976, area schools offered 49 reimbursable exploratory programs (Table 7).

Table 7—Reimbursable Jointly Administered Exploratory Programs by Local and Area Schools

	FY 1974	FY 1975	% Change	FY 1976	% Change
Area School	17	30	77	49	63
Local School	74	97	31	122	26

Source: Department of Public Instruction, CE-4 File Computer Runs.

Preparatory Programs

In 1976, area schools offered 57 reimbursable preparatory programs (Table 8). Preparatory programs are those which provide entry-level skills for students who have chosen a specific occupation as a career.

Table 8—Reimbursable Jointly Administered Preparatory Programs by Local and Area Schools

	FY 1974	FY 1975	% Change	FY 1976	% Change
Area School	23	44	91	57	30
Local School	82	162	98	192	19

Source: Department of Public Instruction, CE-4 File Computer Runs.

Enrollments

In 1976, reported enrollments in jointly administered programs were approximately triple reported enrollments in 1974 (Tables 9 and

10). The discrepancies between the numbers reported by area schools in Table 9 and the local schools in Table 10 have not been reconciled and must be attributed to possible dual enrollments and/or disparate reporting methods.

Table 9—Enrollment in Jointly Administered Programs as Reported by the Area Schools

	FY 1974	FY 1975	% Change	FY 1976	% Change
Exploratory	416	661	59	897	36
Preparatory	381	791	108	1,057	34
TOTAL	797	1,452	82	1,954	35

Source: Department of Public Instruction, CE-4 File Computer Runs.

Table 10—Enrollment in Jointly Administered Programs as Reported by the Local Schools

	FY 1974	FY 1975	% Change	FY 1976	% Change
Exploratory	325	701	116	947	35
Preparatory	322	896	178	1,292	44
TOTAL	647	1,597	147	2,239	40

Source: Department of Public Instruction, CE-4 File Computer Runs.

LOCAL SCHOOL DISTRICT PERCEPTIONS

Questionnaires were mailed to 166 secondary school districts reported in the DPI's *Directory of Schools Approved for Jointly Administered Programs in Vocational Education*. Of the districts contacted, 114 (approximately 68%) responded. Several respondents stated they were not presently participating in a jointly administered program and did not complete the questionnaire, but 95 usable responses were tabulated.

This low response may in part be attributed to one characteristic of jointly administered programs. The directory was prepared in the fall of 1977, and schools were contacted in the spring of 1978. During this period, several schools entered discussions intending to enroll students in jointly administered programs but later found that students had changed their minds and did not actually enroll. The directory also included approved vocational programs which were not included within merged area schools. When identified, they were excluded from the study.

Distribution of Responses

Responses were received from school districts within 13 of the 15 merged area school boundaries, the greatest number coming from Areas 5 (18.9%), 3 (11.6%), 10 (11.6%), and 13 (11.6%). Areas 2 and 6 did not respond to the questionnaire (Table 11).

The clustering of responses closely parallels the distribution of programs offered in Iowa, the four merged areas with the highest response also having the largest number of programs. Some caution should be exercised in generalizing from the data, because approximately 65% of responses are from four merged areas—a result of uneven distribution of programs.

Table 11—Distribution of Responses by Merged Area School District

Merged Area School Dist.	Number of Schools		Number of Programs	
	Frequency	Percent	Frequency	Percent
1	8	8.4	9	5.2
3	11	11.6	18	10.4
4	6	6.3	8	4.6
5	18	18.9	57	32.9
7	5	5.3	5	2.9
9	6	6.3	9	5.2
10	11	11.6	20	11.6
11	1	1.1	1	0.6
12	3	3.2	3	1.7
13	11	11.6	19	11.0
14	6	6.3	10	5.8
15	8	8.4	13	7.5
16	1	1.1	1	0.6
Total	95	100.0	173	100.0

Approximately 55% of respondents offered one or two jointly administered programs, and 6% reported five or six programs (Table 12).

Table 12—Number of Jointly Administered Programs for 95 School Districts

Number of Programs	Number of School Districts	Percent
1	47	49.5
2	34	35.8
3	7	7.4
4	1	1.1
5	3	3.2
6	3	3.2
Total	95	100.0

Types of Programs

Seventy-three percent of the schools reported that their program objectives were exploratory, and 52% reported that their objectives were preparatory.

Sequential programs designed as part of a secondary to postsecondary sequence were reported by 24%, and programs leading to advanced placement in postsecondary courses were indicated by 12% (Table 13). This information suggests that program planning beyond instruction to secondary school students is being implemented on a limited basis.

Table 13—Program Objectives of 95 School Districts

	Number	Percent
1. Exploratory programs to provide broader experiences leading to the selection of preparatory programs.	69	72.5
2. Secondary programs designed as part of a sequence to be completed at the post-secondary level.	23	24.2
3. Programs to provide advanced placement at the postsecondary level.	11	11.6
4. Preparatory programs to provide immediate employment skills.	49	51.6

* The totals exceed 100% because of multiple responses by schools.

The largest number of programs was in the offerings of trade and industrial education (47.4%), health occupations (23.7%), and agricultural business (14.5%) (Table 14).

The distribution of responses in Table 13 does not reflect the exploratory and preparatory classifications in Table 14. Approximately 68% of the 173 programs reported in the Department of Public Instruction study were recorded as preparatory and 32% as exploratory.

Table 14—Classification of 173 Approved Programs by Program Area and Exploratory/Preparatory

Program Area	Exploratory	Preparatory	Total Frequency	Percent
Office Education	8	7	15	8.7
Trade and Industrial	26	56	82	47.4
Home Ec. Related Occup.	–	4	4	2.3
Vocational Agriculture	2	2	4	2.3
Agriculture Business	12	13	25	14.5
Health Occupations	8	33	41	23.7
Multi-Occupational	–	2	2	1.2
TOTAL	56	117	173	100.0

This inconsistency between DPI reports and responses to school questionnaires indicates that program objectives, as perceived by districts implementing them, reside in common programs and that distinctions between exploratory and preparatory become blurred.

As an example, some schools indicated to this researcher that their program objectives were exploratory even though the DPI recorded their program classification as preparatory. In other instances, one school participating in a jointly administered program listed its objectives as exploratory, and another school in the same program listed its objectives as preparatory. These differences between perception and reporting call into question the programmatic usefulness of these two categories and suggest that in practice both objectives can comfortably be reached within a given course or sequence.

Satisfaction With Programs

A high percentage of the 95 respondents (88%) indicated satisfaction with jointly administered programs as a method of delivering instructional services. Ten percent expressed dissatisfaction, and 2% did not respond. The reasons given for satisfaction with the programs appear in Table 15.

Table 15—Reasons for Satisfaction With Programs

	No.	%
Couldn't afford program without help from the area school	21	25.0
Good basic training	7	8.3
Specialized equipment, facilities available	6	7.1
Provides opportunity for more courses	6	7.1
Good cooperation	2	2.4
Students continuing in health field because of program	5	6.0
Other	4	4.8
No response	33	39.3

Numbers and percent do not equal 84 and 100 because of multiple responses.

Twenty-five percent of those satisfied reported that they could not afford the program without the area school. Approximately 15% felt that the program provided essential training and the opportunity for more courses.

Respondents dissatisfied with their program cited the need for more programs and the problem of inadequate facilities, equipment, and instruction (Table 16).

Table 16—Reasons Given by Nine Respondents for Dissatisfaction with Programs

New wider scope, more programs	3
Inadequate facilities, equipment, instruction and programs	2
Cost too high	1
Time program is offered is not satisfactory	1
Other	2

Program Improvements

Approximately 62% of responding school districts provided no recommendations for improving their program: 35.8% because they "liked it as it is"; 26.3% because they did not respond to this item of the questionnaire. The need for more money and fewer costs to local school districts was recommended by 15% of the respondents and closer locations for the programs was cited by 5% (Table 17).

Table 17—Recommendations for Program Improvements

Recommendations	Frequency	Percent
1. Need more money appropriated and fewer costs to local school	14	14.7
2. Closer locations	5	5.3
3. Better communication among teachers and administration of community colleges and local schools	4	4.2
4. More local input	2	2.1
5. More participation from other schools	2	2.1
6. Other	9	9.5
7. No recommendations, like program as it is	34	35.8
8. No response	25	26.3

Program Expansion Needs

Fifty-six percent of the respondents indicated a need for additional jointly administered programs (Table 18). The three areas most frequently listed were trade and industrial education (18), office education (17), and health occupations (11).

The obstacles to program expansion were perceived to be "cost too high" and "lack of facilities, instructors, and equipment." These two factors accounted for 35% of responses to this question (Table 19). It is also worth note that 39% reported no obstacles to expansion.

Table 18—Areas of Program Expansion Needed

Program Categories	Number
No areas needed	38
Trade and Industrial	18
Office Education	17
Health Occupations	11
Vocational Agriculture	6
Agriculture Business	1
Home Ec. Related Occupations	1
Need exists but no specific area identified	5
Other	7
No response	8

Total exceeds 95 because of multiple responses.

Table 19—Obstacles to Program Expansion

Obstacles	Number	Percent
No obstacles	37	38.9
Cost too high	23	26.3
Lack of facilities, equip., instructors, etc.	8	8.4
Location of school	5	5.3
Lack of students	4	4.2
Lack of cooperation with other schools	4	4.2
Other	14	14.7
No response	11	11.6

Total exceeds 95 because of multiple responses.

Placement Services

About 25% of districts reported providing some placement services for students in the jointly administered programs, but 72% reported not providing such services, and 4% did not respond.

Number of Years in Program

Approximately 87% of the 173 programs offered by the 95 respondents existed five or fewer years; 55% have been in effect for three or fewer years (Table 20).

Table 20—Number of Years of Participation in Joint Programs

Years	Frequency	Percent
1	28	16.2
2	21	12.1
3	46	26.6
4	28	16.2
5	19	11.0
6	23	13.3
7	2	1.2
8	1	0.6
10	1	0.6
11	2	1.2
No Response	3	1.2
Total	173	

Transportation to Programs

Students provide their own transportation to programs in 46% of reporting areas: three schools reimburse students for travel expenses; 51% provide transportation for the students (Table 21).

Table 21—Transportation to Programs

	Frequency	Percent
School Provides Transportation	88	50.9
Student Provides Transportation		
School reimbursed	3	1.7
Student expense	77	44.5
No Response	5	2.9
Total	173	

The length of time spent in daily travel to attend the programs was reported as 40 minutes or less for about 60% of the programs. Eighty-three percent of the programs required a travel time of one hour or less (Table 22).

Table 22—Daily Travel Time for 173 Programs

Number of Minutes	Frequency	Percent
0-20	36	20.9
21-40	67	38.2
41-60	42	24.3
61-80	9	5.2
81-100	8	4.6
101-120	1	0.6
No Response	10	5.8
Total	173	

Facilities and Equipment

Facilities and equipment were rated as adequate by more than 90% of the respondents (Table 23). Those responding that facilities and equipment were inadequate cited limited space and outdated equipment.

Merged area schools provided equipment for about 71% of the programs; for 18% the equipment was jointly provided by area and local schools (Table 23).

Table 23—Adequacy of Facilities and Equipment

	FACILITIES		EQUIPMENT	
	Frequency	Percent	Frequency	Percent
Adequate	158	91.3	162	93.6
Inadequate	14	8.1	9	5.2
No Response	1	.6	2	1.2
Total	173	100.00	173	100.00

Table 24—Equipment for Jointly Administered Programs

	Frequency	Percent
Merged Area School	122	70.5
Local School	18	10.4
Both	31	17.9
No Response	2	1.2
Total	173	100.00

Expansion of Existing Programs

Respondents indicated that 121 (70%) of the programs would not be expanded and that 25% of the programs would be expanded (Table 25).

Table 25—Expansion Plans for 173 Jointly Administered Programs

	Frequency	Percent
Anticipate expansion	43	24.9
Do not anticipate expansion	121	69.9
No response	9	5.2

The most frequent reason given for not expanding the programs is excessive cost (21%). Eighteen percent indicated that little student interest and low enrollments would deter expansion of existing programs, and 14% felt that the programs were presently adequate (Table 26).

Table 26—Reasons for Not Expanding 121 Existing Programs

	Frequency	Percent
Cost too high, limited facilities	27	20.7
Lack of interest, low enrollments	22	18.2
Program adequate now	17	14.0

	Frequency	Percent
Area school not interested in high school, limited space	6	5.0
Other	4	3.3
No Response	50	41.3

Total exceeds 121 because of multiple responses.

Students' desire and the need to develop more skills were cited by 61% of the schools as reasons for expanding programs (Table 27).

Table 27—Reasons for Expanding 43 Existing Programs

	Frequency	Percent
Greater Student Interest, Need for More Skills	28	60.5
Need to Add Voc. Ag., Carpentry	4	9.3
Need More Courses as Electives	4	9.3
Eligibility for More Funds	2	4.7
Cooperative Programs Permit Expansion	1	2.3
Other	2	4.7
No Response	5	11.6

Total exceeds 43 because of multiple responses.

COOPERATIVE PLANNING

Since 1974, all merged area schools, in cooperation with local school districts, have completed assessments of vocational education needs. The studies include recommendations for the implementation of career education programs. The most frequently occurring recommendations include:

1. Expanded assistance in developing programs of career exploration.
2. Cross-enrollment opportunities between high schools and merged area schools.
3. Workshops for vocational teachers.
4. Resource assistance to local planning efforts.
5. Jointly planned and administered programs.

All of these activities were evident throughout Iowa, but the degree of implementation varied from one merged area district to the next. In some areas there was evidence of extensive planning and implementation; in others implementation was limited. A number of the activities were not within those reported as reimbursed joint programs. For example, Hawkeye Tech offered a selected senior program for students from Cedar Falls and Waterloo who would enroll at Tech for high school credit. The building trades program was open to students from all schools in the vicinity. Several reports cited similar efforts to serve specific populations from high schools.

Although the studies reported several planning efforts underway, a recurring recommendation addressed the need for a master plan that would deliver instruction and services systematically—a plan which would identify and take advantage of collective resources within each merged area school. Significantly, merged areas having already implemented elements of a master plan seem to be those areas which evidence greatest cooperation in delivering instructional services to secondary school students.

A master plan to develop systematic cooperation in vocational-technical education at secondary and postsecondary levels within each region is also endorsed by the Department of Public Instruction and the Iowa State Advisory Council on Vocational Education.

STUDENT RESOURCES

Projections indicate that numbers of students are insufficient to provide enrollments necessary for extensive vocational programs in several parts of Iowa. Although there is no commonly accepted criterion for enrollments, two recent publications have cited minimum acceptable enrollments for vocational programs. Maley cites a school district with a five-year average enrollment of 247 high school seniors as an example of a small school with a limited cluster approach to vocational education. The five-year plan for career education for Merged Area V specifies a high school with a minimum enrollment of 500 seniors as the criterion for establishing a secondary education center (Donald Maley, *Cluster Concept in Vocational Education*, p. 74).

Given the projected enrollments for Iowa secondary schools, fewer than one out of ten districts could enroll 250 seniors in vocational programs in 1982, and virtually no schools could enroll 500 seniors. Projections on a county-wide basis indicate that about 38% would not meet the criterion of 250 seniors and 79% would not meet the criterion of 500 seniors.

Enrollments by Local School Districts

Projections of potential enrollments in vocational programs reassert that the number of students in most Iowa school districts will be insufficient to support extensive development of vocational programs in individual districts.

Table 28 indicates that in 1981-82 approximately 91% of the districts would generate fewer than 75 students for vocational programs if 20% of eleventh and twelfth graders enrolled in such programs. Approximately 61% of the districts would provide fewer than 25 students. Nine districts (2%) would provide 200 or more students. If we accept the common recommendation that five vocational education options be offered, then 15 or fewer eleventh and twelfth graders would be available for each program in 91% of Iowa's schools. There would be five or fewer vocational students in 61% of Iowa's schools.

Using the 40% projection (Table 28) 76% of the schools would provide 75 or fewer students, 27% would provide 25 or fewer students, and 5% would provide 200 or more students from the eleventh and twelfth grades.

Enrollments by County

On a county-wide basis, the 20% enrollment projection for 1981-82 indicates that approximately 37% of Iowa's counties would provide 100 or fewer students for vocational programs (Table 29). About 71% would provide fewer than 150, and 21 counties would enroll 200 or more students.

The 40% enrollment projection indicates that 10% of Iowa's counties would have fewer than 100 students; 18%, fewer than 150 students; 61% would have 200 or more eleventh and twelfth grade students.

Enrollments by Area School Districts

Projected eleventh and twelfth grade enrollments indicate that approximately 87% of merged area schools would have more than 500 students available for programs if 20% of juniors and seniors enroll. The smallest projected enrollment is 423 students (Table 30).

Clearly, for individual schools the prospect of enrolling fewer and fewer students will continue during the period projected. An historic answer to this problem has been to reorganize individual units into larger districts; for vocational education this would be only a partial solution, however.

Table 28—Potential 1981-82 Eleventh and Twelfth Grade Enrollments in Vocational Education Programs by Local School District

Enrollments	NUMBER OF SCHOOL DISTRICTS							
	20% of 1981-82 Enrollments				40% of 1981-82 Enrollments			
	f	*cf*	%	*Cum %*	*f*	*cf*	%	*Cum %*
0- 25	274	274	61.02	61.02	121	121	26.95	26.95
26- 50	103	377	22.94	83.96	156	277	34.74	61.69
51- 75	30	407	6.68	90.65	64	341	14.25	75.95
76-100	17	424	3.79	94.43	36	377	8.02	83.96
101-125	4	428	0.89	95.32	15	392	3.34	87.31
126-150	3	431	.67	95.99	16	408	3.56	90.87

Enrollments	NUMBER OF SCHOOL DISTRICTS							
	20% of 1981-82 Enrollments				40% of 1981-82 Enrollments			
	f	*cf*	%	*Cum %*	*f*	*cf*	%	*Cum %*
151-175	5	438	1.11	97.10	12	420	2.67	93.54
176-200	4	440	0.89	98.00	5	425	1.11	94.65
201-225	1	441	0.22	98.22	1	426	0.22	94.88
226-250	1	442	0.22	98.44	3	429	0.67	95.55
251-275	–	442	–	98.44	1	430	0.22	95.77
276-300	1	443	0.22	98.66	–	430	–	95.77
301-325	–	443	–	98.66	3	433	0.67	96.44
326-350	–	443	–	98.66	2	435	0.45	96.88
351-375	–	443	–	98.66	3	438	0.67	97.55
376-400	–	443	–	98.66	2	440	0.45	98.00
401-425	1	444	0.22	98.89	–	440	–	98.00
426-450	–	444	–	98.89	1	441	0.22	98.22
451-475	1	445	0.22	99.11	–	441	–	98.22
476-500	–	445	–	99.11	1	442	0.22	98.44
501-600	1	446	0.22	99.33	1	443	0.22	98.66
601-900	2	448	0.45	99.78	1	444	0.22	98.89
901 or more	1	449	0.22	100.00	5	449	1.11	100.00

Table 29—Potential 1981-82 Eleventh and Twelfth Grade Enrollments in Vocational Education Programs by County

Enrollments	NUMBER OF COUNTIES							
	20% of 1981-82 Enrollments				40% of 1981-82 Enrollments			
	f	*cf*	%	*Cum %*	*f*	*cf*	%	*Cum %*
26- 50	8	8	8.1	8.1	–	–	–	–
51- 75	10	18	10.1	18.2	2	2	2.02	2.02
76-100	20	38	20.2	38.4	7	9	7.07	9.09
101-125	23	61	23.2	61.6	7	16	7.07	16.16
126-150	10	71	10.1	71.7	2	18	2.02	18.18
151-175	5	76	5.1	76.8	7	25	7.07	25.25
176-200	2	78	2.0	78.8	14	39	14.14	39.39
201-225	2	80	2.0	80.8	10	49	10.10	49.49
226-250	7	87	7.1	87.9	12	61	12.12	61.62
251-275	2	89	2.0	89.9	4	65	4.04	65.66
276-300	–	89	–	89.9	6	71	6.06	71.72
301-325	2	91	2.0	91.9	4	75	4.04	75.76
326-350	–	91	–	91.9	2	77	2.02	77.78
351 or more	8	99	8.1	100.0	22	99	22.22	100.00

Given the need for several options within vocational offerings to meet students' needs, interests, and capabilities as well as employment needs, the pool of students in many areas of the state would not reach a realistic size until the units approached the geographic areas presently bounded by merged area schools. The problem of enrollments would not diminish greatly at the county level.

*Table 30—Potential 1981-82 Eleventh and Twelfth Grade Enrollments in Vocational Education Programs by Merged Area Schools**

Enrollments	*f*	*cf*	%	Cum %
0-500	2	2	13.3	13.3
501-1000	5	7	33.3	46.7
1001-1500	4	11	26.7	73.3
1501-2000	2	13	13.3	86.7
2001-2500	1	14	6.7	93.3
2501-3000	—	14	—	93.3
3001-3500	1	15	6.7	100.0

* If 20% of projected eleventh and twelfth grade students enroll in vocational-technical programs.

SUMMARY

Approximately half of Iowa's eleventh and twelfth graders attend high schools which provide, individually or through jointly administered programs, four or more vocational education options. But students with fewer than four vocational education options are enrolled in 84% of Iowa's school districts.

The growth of jointly administered programs has been substantial in Iowa during the past five years. This growth has varied from one merged area district to the next, indicating that several levels of cooperation and implementation exist statewide. Local schools which entered into reimbursed joint agreements are primarily small schools. In some merged area regions, jointly planned and implemented programs have been arranged with larger schools for specific student populations.

The five-year period of expansion has been characterized by programs being terminated as well as initiated. The termination of programs should not be surprising, considering the complexities of developing a curriculum and delivering this number of programs. A record of complete success would be more surprising. In total, the number of programs has increased, with a plateau occurring during the last two years.

Programs represent all major taxonomical categories for vocational education, the greatest number being in areas of trade and industrial education, agricultural education, and health occupations.

Iowa's large school districts have not initiated extensive jointly administered programs with merged area schools. Interviews with some area school personnel indicate that discussions of cooperative efforts have occurred and that planning groups do exist. In relation to the number of students served by these schools, the number served in joint programs is relatively small.

In general, participants in the study were satisfied with the jointly administered programs. Problems with costs, coordinated schedules, transportation, and facilities exist. For a large number of the respondents these problems are outweighed by the increased opportunities for students; for many of them alternate vocational opportunities are not available. This level of satisfaction must be weighed against the fact

that the majority of respondents have participated in programs for three or more years.

A large number of schools and students still do not have comprehensive vocational education options available for them. As the student population continues to decline during the next five years, it will become increasingly evident that the degree to which comprehensive vocational programs are available will be directly related to the collective efforts of local school districts and the merged area schools in the area of shared responsibility.

The relationships between merged area schools and local school districts vary greatly. In some instances there is evidence of extensive planning and implementation of programs. In others, the implementation of cooperative efforts is minimal. Common to all is the need for a regional effort to collectively plan a systematic approach.

RECOMMENDATIONS

State organizational structures have a significant effect upon secondary and postsecondary vocational education. Structures which foster separate jurisdictions require special efforts to form lines of communication and interrelationship. The organizational structure in Iowa is based on separate jurisdictions charged with a common responsibility of providing vocational education to secondary school students. Efforts to establish special lines of communication vary from one region of Iowa to the next. On the whole, the need to establish and refine these lines of communication is evident. The following recommendations are directed to that end.

Recommendation One

Iowa should establish a coordinating council for vocational-technical education for each region encompassed by a merged area school district. Each council would employ a full-time coordinator to represent the region's secondary and postsecondary educational units in addition to the business and industrial community.

It would be advantageous if the mission of each coordinating council would be to develop and maintain a regional plan which specifies criteria for coordinating efficient delivery of vocational-technical education. Upon ratification by the constituent educational units and by the Board of Public Instruction, the plan would become the base document for the DPI's approval of existing and proposed vocational-technical programs in the area.

Each council would develop and recommend appropriate criteria concerned with the following:

Program

1. Exploratory and preparatory programs designed to provide broader educational experiences leading to career selections.

2. Programs that are part of sequences which progress through secondary and postsecondary education.
3. Programs that provide for early entry into postsecondary programs.
4. Programs at the secondary level which may be used for advanced placement in postsecondary education.
5. Early release from home schools to pursue postsecondary programs full- or part-time.
6. Advanced credit based on completion of secondary school programs.

Students

Criteria should be developed to specify which students will be allowed to participate in the various programs as well as criteria for admissions, retention, and withdrawal.

Other

Criteria should be developed for the coordination of guidance services, faculty sharing, and financial considerations inherent in the various programs.

Recommendation Two

Pilot projects for the establishment of two coordinating councils in vocational-technical education should be implemented July 1, 1979. One such project would be conducted in a merged area that primarily represents rural Iowa, where the greatest number of students attend small Iowa schools. The other would be in a merged area where the greatest proportion of students attends larger schools. The intended outcome of both pilot projects will be the development of models useful in implementing regional coordinating councils for vocat nal-technical education at secondary and postsecondary levels.